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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,407	04/14/2004	Keiji Ito	10873.1428US01	9378
7590 11/13/2006				
Hamre,Schumann, Mueller & Larson, P.C. P.O. Box 2902-0902 Minneapolis, MN 55402				
			EXAMINER GOLUB, MARCIA A.	
			ART UNIT 2828	PAPER NUMBER

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/825,407	Applicant(s) ITO ET AL.	
	Examiner Marcia A. Golub	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-8 and 11 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6, 11 are rejected under 35 U.S.C. 103(e) as being unpatentable over Balsamo et al. (2003/0031222), hereinafter '222.

Regarding **claim 1**, Fig 1 of '222 discloses a semiconductor laser device, comprising:

"a first conductivity type cladding layer [203]; an active layer [200]; and a second conductivity type cladding layer [201], which are on a substrate [204],

wherein the semiconductor laser device further comprises a stripe structure [102] for injecting carriers therein,

a width of the stripe is wider at a front end face [W3] of a resonator [100] from which laser light is emitted than at a rear end face [W1] that is located on an opposite side of the front end face, (paragraph 0062)

and a reflectance of the front end face [114] is lower than a reflectance of the rear end face [112]; (paragraph 0062)

a ratio between the stripe width [W3] at the front end face and the stripe width at the rear end face [W1] satisfies a relationship of $1 < (\text{the stripe width at the front end face}) / (\text{the stripe width at the rear end face}) < 2$ (for example: $W3=9$, $W1=5$ um, $W3/W1=1.8$, paragraph 0023);

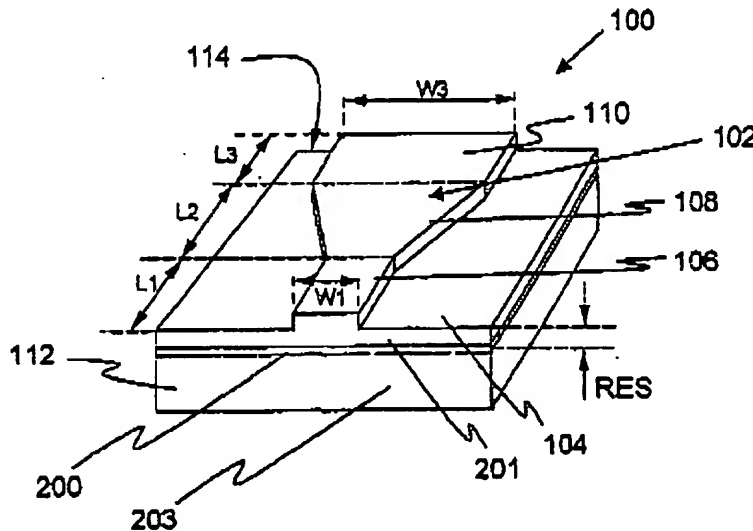
the stripe structure has regions adjacent to the front end face [W3,L3] and the rear end face [W1,L1], the regions respectively extending inwardly from the front end face [114] and the rear end face [112] and each having a constant stripe width;

the region having the constant stripe widths on the front end face side has a length of one-twentieth or shorter of a length of the resonator ($L1 < L/20$) [$L1 < 16L/20$],

Art Unit: 2828

and the region having the constant stripe width on the rear face side has a length of one-twentieth or shorter of a length of the resonator ($L3 < L/20$) [$L3 > L/25$].” (paragraphs 0024, 0026)

'222 does not disclose that the stripe width at the rear end face is between 1.4 and 2.0 μm . '222 discloses the stripe width $[W1]$ to be between 3 and 5 μm . However, the optimization of range is not inventive unless it is accompanied by unexpected results, see MPEP 2144.05. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the stripe width at the rear end face between 1.4 and 2.0 μm , since it has been held to be within the general skill of a worker in the art to discover the optimum or workable ranges by routine experimentation.



Regarding **claims 3, 6, 11**, Fig 1 of '222 disclose a semiconductor laser device, comprising:

3. "wherein at least the active layer [200:200b, 200b'] comprises an AlGaAs based semiconductor material (paragraph 0057);
6. "wherein the ratio between the stripe width at the front end face and the stripe width at the rear end face satisfies a relationship of $1.4 < (\text{the stripe width at the front end face}) / (\text{the stripe width at the rear end face}) < 1.8$ (paragraph 0023);
11. "wherein the reflectance of the front end face [85%] is lower than the reflectance of the rear end face [9%] by 15% or more." (paragraph 0062)

Art Unit: 2828

Regarding **claims 2 and 4**, Fig 1 of '222 discloses a semiconductor laser device, as disclosed above, but ^{does} ~~do~~ not disclose;

2. "wherein at least the active layer comprises a Group III-V nitride based semiconductor material;
4. wherein at least the active layer comprises an AlGaInP based semiconductor material."

These materials/elements are known in the art to be used with lasers.

It would have been obvious to one of ordinary skill in the art at the time the of the invention to make the laser of these known materials/elements, since it has been held to be within the general skill of a worker in the art to select a known material/element on the basis of it's suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

Contact Info

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcia A. Golub whose telephone number is 571-272-8602. The examiner can normally be reached on M-F 9-6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marcia A. Golub
Assistant Examiner
Art Unit 2828

MAG



**MINSUN OH HARVEY
PRIMARY EXAMINER**